

CLAIM AMENDMENTS

1 - 2. (canceled)

1 3. (currently amended) The low-temperature fuel cell
2 according to claim [[1]] 8 in which the diffusion layer of the
3 cathode is composed of an ion-conducting ~~, especially proton~~
4 ~~conducting,~~ material.

1 4. (currently amended) A method of operating a low-
2 temperature fuel cell with an anode, a cathode and an electrolyte
3 membrane arranged therebetween, ~~whereby~~ the cathode comprises
4 comprising a diffusion layer engaging directly against the membrane
5 and a catalyst layer on the diffusion layer and bounding a free
6 cathode compartment, with the method comprising the steps of:
7 causing protons produced at the anode [[side]] to travel
8 through the electrolyte membrane and then through the diffusion
9 layer of the cathode to the catalyst layer, and
10 supplying oxygen via the free cathode compartment
11 directly to the catalyst layer.

1 5. (original) The method according to claim 4 in which
2 methanol or a methanol water mixture is supplied as a fuel.

1 6. (previously presented) The method according to claim
2 4 in which the oxygen is supplied as pure oxygen or as atmospheric
3 oxygen.

1 7. (previously presented) The method according to claim
2 4, further comprising the step of: in which the
3 directly discharging water produced at the catalyst layer
4 of the cathode ~~is directly discharged~~ through the free cathode
5 compartment.

6 8. (new) A low-temperature fuel cell comprising:
7 an anode;
8 a cathode;
9 an electrolyte membrane between the anode and the
10 cathode;
11 a diffusion layer forming a face of the cathode and
12 engaging directly against the electrolyte membrane; and
13 a catalyst layer forming an opposite face of the cathode,
14 turned away from the anode, and bounding a free cathode
15 compartment.

1 9. (new) The low-temperature fuel cell defined in claim
2 8 wherein the diffusion layer is composed of a proton-conducting
3 material.